NORTH CAROLINA DIVISION OF AIR QUALITY

Air Permit Review

Permit Issue Date:

Region: Raleigh Regional Office
County: Granville
NC Facility ID: 3900040
Inspector's Name: Steven Carr
Date of Last Inspection: 07/29/2015
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): CertainTeed Corporation

Facility Address:
CertainTeed Corporation
200 CertainTeed Road
Oxford, NC 27565

SIC: 2952 / Asphalt Felts And Coatings
NAICS: 324122 / Asphalt Shingle and Coating Materials Manufacturing

Facility Classification: Before: Title V **After:** Title V
Fee Classification: Before: Title V **After:** Title V

Permit Applicability (this application only)

SIP: 15A NCAC 2Q .0513, 2Q .0501(c)(2), 2Q .0523
NSPS: N/A
NESHAP: N/A
PSD: N/A
PSD Avoidance:
NC Toxics: N/A
112(r): N/A
Other: N/A

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Robert Yurek Environmental Coordinator (919) 693-1141 200 Certainteed Road Oxford, NC 27565	Mark Heilman Plant Manager (910) 485-9225 200 Certainteed Road Oxford, NC 27565	Robert Yurek Environmental Coordinator (919) 693-1141 200 Certainteed Road Oxford, NC 27565

Application Data

Application Number: 3900040.13B, (Renewal), 3900040.14A (TV-Significant – Part II) 3900040.15A 502(b)(10) change (Consolidated)
Date Received: 08/22/2013
Application Type: Renewal/Modification
Application Schedule: TV-Renewal

Existing Permit Data
Existing Permit Number: 03663/T30
Existing Permit Issue Date: 09/21/2015
Existing Permit Expiration Date: 04/30/2019

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2014	61.11	21.37	61.36	57.70	96.10	97.73	83.18 [Hydrogen chloride (hydrochlori
2013	60.67	21.10	59.71	57.45	101.56	105.44	90.88 [Hydrogen chloride (hydrochlori
2012	81.47	23.84	110.47	123.31	120.81	85.03	65.6899 [Hydrogen chloride (hydrochlori]
2011	76.79	23.43	104.03	116.72	117.10	86.60	68.3328 [Hydrogen chloride (hydrochlori]
2010	78.16	23.97	88.52	100.47	99.60	75.54	59.9901 [Hydrogen chloride (hydrochlori]

Review Engineer: Gautam Patnaik

Review Engineer's Signature: **Date:**

Comments / Recommendations:
Issue: 03663/T30
Permit Issue Date:
Permit Expiration Date:

I. Facility Description

CertainTeed Corporation owns and operates an asphalt roofing manufacturing plant in Oxford, North Carolina. The facility primarily manufactures asphalt roofing shingles from glassmat, asphalt, color granules, sand, limestone, and headlap granules, using various processes. These raw materials are combined to produce asphalt shingles, polypropylene shingles, and molding polypropylene to form a high-end, durable roofing shingle.

II. Purpose of Application

Application # 3900040.13B

1) This permitting action is a renewal of an existing Title V permit pursuant to 15A NCAC 2Q .0513. The existing Air Quality Permit No. 03663T29 was issued on November 14, 2011, and expired on May 31, 2014. The renewal application was received on 08/22/2013, or at least nine months prior to the expiration date. Therefore, the existing permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or denied.

2) PSD Avoidance:

   As per the application "CertainTeed is also requesting a facility-wide synthetic minor Prevention of Significant Deterioration (PSD) cap in order to reclassify the facility as a minor source under the PSD permitting program. These modifications are described in applicable sections in this renewal application."

   This request is addressed below in the regulatory review in Section IV xv., (PSD Avoidance for SO^2, NO^x, and VOCs) of this review.

3) Permit shield:

   As per the applicant "*CertainTeed is requesting through this application that DENR continue to include the permit shield provisions in the renewed operating permit consistent with this regulation. Therefore, in addition to providing a summary of applicable requirements, this application also provides non-applicability determinations for regulations to assist DENR in determining that identified regulations are not applicable to operations at the Oxford facility. Note that this non-applicability review is limited to those regulations for which there may be some question of applicability specific to the Oxford plant.*"

   The regulations for which the facility requested permit shields were listed in Section 4, Tables 4.2 and 4.3, of the application. The regulations were listed in a 24 page section of the application with each page listing approximately 14 regulations. In a discussion with the applicant they were informed that the normal procedure is to include only those regulations that might reasonably apply to emissions sources at a facility. The vast number included in the application was too impractical to incorporate into the permit. They were provided the option to narrow the list to a smaller amount and provide justification. The applicant has not provided the narrowed list of regulations as of this date. Thus no list of regulations requiring a permit shield for non-applicable regulations has been added to the draft permit.

4) The facility requests that state toxics requirements for all pollutants other than benzene be removed from the facility's Title V air operating permit in accordance with 15A NCAC 2Q .0702(27).

In November 2008, the facility demonstrated by modeling that modeled emission rates which resulted in ambient air impacts below acceptable ambient levels (AALs) for all toxic air pollutants considered.

The majority of the sources at the facility are subject to MACT Subpart LLLLL, Subpart ZZZZ, and 2D .1109 case-by-case MACT.

All the emissions of toxic air pollutants from MACT affected sources have been removed from the permit in accordance with 15A NCAC 2Q .0702(27) except benzene.

5) Request removal of the 2,500 kw diesel-fired emergency generator (ID No. ESEDG).

Per the applicant the 2,500 kW emergency generator/engine is a rental unit that is not on-site for more than 12 consecutive months, and is trailer-mounted. The engine meets the definition of a "nonroad engine" as defined in 40 CFR 1068.30, as it is designed to be and capable of being carried or moved from one location to another. The Oxford facility uses the diesel-fired emergency generator (currently permitted as ES-EDG) to keep the asphalt warm in the storage tanks and preheaters during the colder months. CertainTeed requests that all references to 40 CFR 63 Subpart ZZZZ be removed from the facility's Title V permit.

40 CFR § 1068.30 defines a nonroad engine as:

(1) Except as discussed in paragraph (2) of this definition, a nonroad engine is any internal combustion engine:
  (i) In or on a piece of equipment that is self-propelled or serves a dual purpose by both propelling itself and performing another function (such as garden tractors, off-highway mobile cranes and bulldozers); or
  (ii) In or on a piece of equipment that is intended to be propelled while performing its function (such as lawnmowers and string trimmers); or
  (iii) That, by itself or in or on a piece of equipment, is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform.

Based on the above information this engine is a "nonroad engine" and not considered a stationary source engine. Thus, this generator (ID Nos. ESEDG) has been removed from the body of the Title V permit. Though this engine is not really an insignificant source of emissions by definition, it is listed in the insignificant sources list for tracking purposes as (ID No. IESEDG). As per the Regional Office comments this engine is removed from the permit (See Section VI., of this review)

Application # 3900040.14A

CertainTeed submitted a construction and operating permit application to modify the stillyard at the Oxford Facility in June 2011. The proposed modifications included a replacement of the blowstills with water-jacketed larger stills, the replacement of existing blowers and pumps to accommodate the larger capacity stills, and a reconfiguration and modifications to the associated storage tanks to accommodate larger storage quantities.

The cover letter of the Air Quality Permit No. 03663T29, issued on November 14, 2011, stated "The Permittee shall file a Title V Air Quality Permit Application pursuant to 15A NCAC 2Q .0504 for the air emission sources (ID Nos. ESBS1 through ESBS3, ESFST3, and ESFST4) on or before 12 months after commencing operation." The application for these sources (Application # 3900040.11A) was processed as a "Significant 2Q .0501(c)(2) modification" of a Title V permit. The submittal of application #3900040.14A satisfies the one year re-submittal requirement.

As per the applicant "CertainTeed is filing this Title V Air Quality Permit Application pursuant to Title 15A of the North Carolina Administrative Code (15A NCAC) Subchapter 2Q .0504 for the air emission sources (ID Nos. ESBS1 through ESBS3, ESFST3, and ESFST4, and insignificant activity IN2FO). The stillyard modifications were completed in July through September 2012 and the startup of the modified blowstills commenced, one blowstill each, during the months of July, August, and September 2012." This application was received on July 3, 2014.

2Q .0504 requires the applicant to file an application under Section .0300 of this Subchapter of which 2Q .0307 requires "public participation procedures" and allows for "public and EPA comments." The "public participation" and review by "EPA and affected states" as per the requirements of 02Q .0521 and 02Q .0522, as mentioned above also satisfies the requirements of 2Q .0504 and 2Q .0307. Thus, this application will be subject to the public and EPA review as per procedures outlined above and the above sources will be shielded.

Application # 3900040.15A

This application is for a 502(b)(10) change. The facility proposed to replace the 11.3 million Btu per hour burner for the natural gas /No. 2 and No. 6 fuel oil- fired shingle coating heater No. 3; 11.3 million Btu per hour heat input (ID No. ESSCH3) with a smaller 3.75 million Btu per hour burner. As shown below in the review this source will only burn natural gas. (See Section IV xv., "PSD Avoidance for SO^2, NO^x, and VOCs," of this review.)

This source is subject to the following regulations:
a) 15A NCAC 2D .0503;
b) 15A NCAC 2D .0516;
c) 15A NCAC 2D .0521;
d) 15A NCAC 2Q .0317; and
e) 15A NCAC 2D .1109 [CAA § 112(j)];

By burning a smaller amount of fuel with the cleanest fuel option the source will be in compliance with all the above regulations.

III. Application Chronology

The table below outlines the modification to their permit starting from their last permit renewal (Air Quality Permit No. 03663T26 issued on June 19, 2009)

Application #	Changes Made to the Permit	Permit Issued
3900040.15B	Install a polypropylene grinder (ID No. L8PG) and associated bagfilter (CDDC26) on Line 8. Add the ability to produce modified sealant using equipment (ESMA1-3). Add the ability to store asphalt in existing tank (IMA5)	03663T30
3900040.11A	Replace the three existing blowstills (ESBS1 through ESBS3) with water-jacketed larger stills. Replace the existing air blowers and pumps with equipment sized for the larger capacity stills. Reconfiguration and modifications to the storage tanks to accommodate larger storage quantities.	03663T29
3900040.09B	112(j) MACT Hammer, Part II, permit modification for various Natural gas, No. 2 and No. 6 fuel oil-fired sources.	03663T28
3900040.09C	Administrative amendment for incorporation of the operating limits for CDFTR2 established during the performance test.	
3900040.09A	Changes to the CAM plan pertaining to the indicator range of the excursions for the combustion temperature of the afterburner (CDAFB) and thermal oxidizer (CDRTO) and the pressure drop for electrostatic precipitator (CDESP) and mist eliminator (CDME).	03663T27

IV. Regulatory Summary

The facility is subject to the following regulations:

i. 15A NCAC 2D .0515: "Particulates from Miscellaneous Industrial Processes."
ii. 15A NCAC 2D .0521: "Control of Visible Emissions"
iii. 15A NCAC 2D .0524: "NSPS for Asphalt Processing and Asphalt Roofing Manufacture" (40 CFR 60, Subpart UU)
iv. 15A NCAC 2D .0516: "Sulfur Dioxide Emissions from Combustion Sources."
v. 5A NCAC 2D.0503: "Particulates from Fuel Burning Indirect Heat Exchangers"

vi. 15A NCAC 2D .0524: NSPS Subpart OOO "Nonmetallic Minerals Processing Plants"
vii. 15A NCAC 2D .1111: "Maximum Achievable Control Technology (MACT) – 40 CFR Part 63 Subpart ZZZZ (Reciprocating Internal Combustion Engines)"

State-Enforceable Only

viii. 15A NCAC 2D .1100: "Toxic air pollutant emissions limitations"
(See Section II 4 of this review, above)

State-Enforceable Only

ix. 15A NCAC 2Q .0705: "Existing Facilities and SIC calls"

x. 15A NCAC 2D .0958: "Work Practices for Sources of Volatile Organic Compounds"

xi. 15A NCAC 2D .1111: "Maximum Achievable Control Technology (MACT)" 40 CFR Part 63 Subpart LLLLL (Asphalt Processing and Asphalt Roofing Manufacturing)

On November 6, 2013 The Regional Office issued a letter regarding Blow Still Lines #1, #2, and #3, were within required combustion efficiency even when the control device (ID No. CDAFB) was operating at a lower rate of 1,463 degrees Fahrenheit. On 11/12/13 received a request from the applicant to lower the compliance temperature. This change has been made in Section 2.2 i. 1. i., of the modified permit to lower the operating limit temperature from 1,565 to 1,463 degrees Fahrenheit. This change is also made in the "Compliance Assurance Monitoring" monitoring approach for the definition of excursion for afterburner (CDAFB) in the table in Section 2.3 b., of the modified permit.

This change will be subject to the approval of the Regional Office during their review of this renewal.

xii. 15A NCAC 2D .0614: "Compliance Assurance Monitoring"

Renewal of the permit does not change any stipulations for the above regulations. The review of these regulations is abbreviated because the facility was, based on information available to the DAQ at this time, determined to be in compliance for all the above regulations during the recent comprehensive review of applications 3900040.15B resulting in issuance of Air Quality Permit Nos. 03663T30.

xiii. 15A NCAC 02D .0524: "NSPS 40 CFR Part 60 Subpart Dc"

The above rule currently only applies to the natural gas, No. 2 fuel oil-fired hot oil heater No. 4 (ID No. ESHOH4) which requires the heater not to burn fuel oil where the maximum sulfur content of fuel oil does not exceed 0.5 percent by weight. This source will now only burn natural gas (See Section IV xv., "PSD Avoidance for SO^2, NO^x, and VOCs," of this review, below). Thus, this rule will not be in effect for this source (ESHOH4) after the permit modification. Thus, Section 2.1 F. 4., of this current permit is removed.

xiv. 15A NCAC 2D .1109: Case-by-Case MACT

The above regulation subjects the oil-fired flux preheaters, saturant heater, boilers, shingle coating heaters and oil heaters in Section 2.1 F., of the current permit to a PM, mercury and carbon monoxide emissions standard while firing No. 6 Fuel Oil. Since all these sources will only be firing natural gas (See Section IV xv., "PSD Avoidance for SO2, NOx, and VOCs," of this review, below), the oil-fired emissions standards have been removed from current permit including the compliance testing and "notification of compliance status" associated with these limits.

xv. 15A NCAC 2Q .0317 (PSD Avoidance for SO_2, NO_x, and VOCs)

The current permit has four PSD and Nonattainment New Source Review avoidance limits as specified in Section 2.2 ii., 1., through 4., these include the following limits:

1. Sulfur Dioxide PSD Avoidance Limits
   i. Total SO_2 emissions from blowstills, coaters, and combustion sources installed prior to April 2005 when used to support production on Roofing Lines No. 1 (L1) and No. 2 (L2) shall not exceed 250 tpy; and,
   ii. Total SO_2 emissions from coaters and combustion sources installed as part of the Roofing Line No. 3 (L3) installation and from blowstills and combustion sources installed prior to April 2005 when used to support production on L3 shall not exceed 250 tpy.

2. Nitrogen Oxide Nonattainment New Source Review Avoidance Limits
   i. Total NO_x emissions from blowstills and combustion sources installed prior to April 2005 when used to support production on Roofing Lines No. 1 (L1) and No. 2 (L2) shall not exceed 100 tpy; and,
   ii. Total NO_x emissions from combustion sources installed as part of the Roofing Line No. 3 (L3) installation and from blowstills and combustion sources installed prior to April 2005 when used to support production on L3 shall not exceed 100 tpy.

3. Volatile Organic Compound Nonattainment New Source Review Avoidance Limit
   i. Total VOC emissions from blowstills, horizontal mix tanks, coaters, cooling sections, coating tanks, and combustion sources installed prior to April 2005 when used to support production on Roofing Lines No. 1 (L1) and No. 2 (L2) shall not exceed 92 tpy; and,
   ii. Total VOC emissions from the horizontal and vertical mix tanks, coater, cooling section, and combustion sources installed as part of the Roofing Line No. 3 (L3) installation and blowstills, coating tanks, and combustion sources installed prior to April 2005 when used to support production on L3 shall not exceed 99 tpy.

4. The total asphalt processed through the three blowstills (ESBS1 through ESBS3) shall be less than 230,000 tons per year.

A brief time-line synopsis of the above limits are outlined below to get a better understanding of how these limits were imposed and understand the applicant's request.

- Air permit 03663T19 issued on July 19, 2005, had only one PSD limit for SO_2 emissions which required the facility to limit sulfur dioxide emissions to less than 250 tons per year. (Section 2.2 B. 1., of the permit 03663T19)

- Air permit 03663T20 was issued August 9, 2005, for a modification (application # 3900040.05B) "to install a third asphalt roofing line, including the installation of two regenerative thermal oxidizers and various modifications to the material handling operations." At the time of permit issuance, Granville County was in nonattainment for the 8-hour ozone standard. Under the nonattainment new source review regulation (NNSR), both NOx and VOCs were the regulated pollutants.

  It was during this permit revision (permit 03663T20) that the second PSD avoidance limit was introduced (Section 2.2 ii., 1. ii, of the current permit). Also the two NO_x NNSR avoidance limits (Section 2.2 ii., 2., of the current permit) and two VOC NNSR avoidance limits (Section 2.2 ii., 3., of the current permit) were added.

  In addressing the SO_2 PSD avoidance limits, the review for permit 03663T20 stated "the facility is located in an area designated as attainment for PM_{10}, CO, and SO_2 under the PSD program. The existing facility is a true minor source (i.e., potential emissions less than 250 tpy) for both PM_{10} and CO. The Permittee has accepted a PSD Avoidance condition, pursuant to 15A NCAC 2Q .0317, that limits potential SO_2 emissions from the existing facility to less than 250 tpy. As such, the existing facility is classified as a minor source under the PSD program."

  As per the review potential PM_{10} and CO emissions increases resulting from the proposed modification (i.e., emissions of all new equipment and all existing equipment when used to manufacture product on roofing line No. 3) were 175.49 tpy and 155.40 tpy, respectively. Because potential emission increases were below the significant emission rate for an existing minor source (i.e., less than 250 tpy), neither PM_{10} nor CO triggered a full PSD review under 15A NCAC 2D .0530.

  The Permittee requested a PSD Avoidance limit, in accordance with 15A NCAC 2Q .0317, to limit potential emissions increases of SO_2 resulting from the proposed modification to less than 250 tpy. Two (2) PSD Avoidance limits for SO_2 were included in the modified permit.

  Addressing the limits for NO_x and VOC the same review stated "this facility is located in an area designated as nonattainment under the 8-hour ozone standard. Both NO_x and VOC are regulated under the provisions of the nonattainment new source review program (NNSR), with the "major source" threshold for each pollutant set at 100 tpy." While *potential* emissions at CertainTeed's Oxford plant exceed 100 tpy for both NO_x and VOC, historical *actual* emissions of NO_x and VOC have not exceeded the 100 tpy thresholds. Therefore, the existing facility has been operating as a minor source of both NO_x and VOC. Actual, facility-side NO_x and VOC emissions from CertainTeed's Oxford plant for the past five calendar years are provided in Table V.B.2-1 to demonstrate that the facility has been operating as a minor source under the NNSR program.

Table V.B.2-1. Summary of Actual VOC and NOx Emissions at CertainTeed's Oxford Plant from 2000 through 2004.

Calendar Year	Facility-Wide Actual Emissions	
	NO_x	VOC
2000	16.58	63.40
2001	18.76	67.62
2002	14.35	67.42
2003	22.16	70.48
2004	24.65	77.59

The Permittee requested federally enforceable 100 tpy emission limits on NO_x and VOC for all existing equipment when used to manufacture product on Roofing Lines No. 1 and No. 2 to formally reclassify the existing facility as a minor source under NNSR.

In addition, the Permittee requested 100 tpy emissions limits on NO_x and VOC for all new equipment authorized for construction as part of this permit modification *and* all existing equipment when used to manufacture product on Roofing Line No. 3.

Therefore, **two (2) NNSR Avoidance limits for NO_x** were placed in the modified permit (T20), as summarized in Table V.B.2-2, and **two (2) NNSR Avoidance limits for VOC** were placed in the modified permit (T20)."

- Air permit 03663T29 was issued on November 14, 2011. This revision of the permit (application # 3900040.11A) introduced the fourth PSD avoidance condition limits the production from the three blowstills (ESBS1 through ESBS3) to less than 230,000 tons of asphalt per year (Section 2.2 ii., 4., of the current permit).

  As per the review of permit 03663T29 "The blowstills (ESBS1 through ESBS3) are already tracked for the emissions of SO_2, VOC, and NO_x for the sake of PSD avoidance of these pollutants. However, to avoid PSD due to this modification the facility is required to monitor the production record from the three blowstills (ESBS1 through ESBS3) to ensure that the total asphalt processed from the three replacement blowstills will be less than 230,000 tons per year for the three units. This requirement is stipulated in Section 2.2. ii. 4., of the modified permit."

The applicant requested as part of this application (3900040.14B), the removal of the above limits in order to be reclassified as a minor source under the PSD permitting program. As per the applicant "*the Oxford facility is currently classified as a major source under the Prevention of Significant Deterioration (PSD) program, codified in 40 CFR 51.166 and 40 CFR 52.21, due to the potential emissions of at least one regulated pollutant being above 250 tpy. The facility's current Title V permit, No. 03663T29, contains conditions for specific emissions sources to avoid PSD permitting requirements under 15A NCAC 2Q .0317.*

CertainTeed is requesting that the Oxford facility be re-classified as a synthetic minor source under the PSD permitting program. CertainTeed requests that all PSD avoidance conditions under 15A NCAC 2Q .0317 for specific units or production lines be removed from the operating permit. CertainTeed requests facility-wide limits of 250 tons per consecutive 12-month period for particulate matter (PM), particulate matter with diameter 10 microns or less (PM10), and particulate matter with diameter of 2.5 microns or less (PM2.5) in order to avoid PSD applicability under 40 CFR 52.21 and 15A NCAC 2D .0530. CertainTeed proposes to track emissions of PM, PM10, and PM2.5, on a monthly basis, and report rolling 12-month summaries on a semi-annual basis, in order to demonstrate compliance with the proposed limits."

The facility made some minor modifications and as part of the application decided that the facility will not use No. 6 fuel oil and No. 2 fuel oil in all combustion sources (No. 2 fuel oil will ***only*** be used in boilers ESB1 and ESB2 during period of gas curtailment).

The sand handling systems is being updated such that sand transfer from Sand Silo No. 2 to Lines 1 and 2 will be via belt conveyor along with the current pneumatic transfer. The process tanks ESFT1 through ESFT3 and ESST1 will now additionally process blowing distillate ESFT2 oil, saturant, water and coating.

Modified asphalt tanks (ESMA1through ESMA3) currently producing asphalt will also now produce sealant or asphalt at any time. (Approved through application # 3900040.15B)

The facility currently is a major source of PSD with several PSD/ NNSR avoidance limits for the emissions of SO2, NOx, VOC, and asphalt processed limits from three blowstills (ESBS1 through ESBS3) to less than 230,000 tons per year and "CertainTeed would like to consolidate all the above limits into an avoidance condition for the plant." Regarding the above changes the applicant added "this is an existing operating scenario that was inadvertently removed from the permit."

The facility-wide worst-case emissions summary for all the above mentioned changes and modifications are presented in the table below.

All these result in a potential emissions increase as mentioned below:

Increases	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)	SO_2 (tpy)	CO_{2e} (tpy)
Total Emissions Increase	271.70	250.55	240.22	94.31	217.53	232.85	237.00	90,453
Significant Emission Rate	25	15	10	40	100	40	40	75,000

Note – the above emissions are based on No. 2 fuel oil ***only*** being used in boilers ESB1 and ESB2

The above facility-wide worst-case emissions are based on certain annual asphalt through from the sources below:

Source	Annual asphalt throughput (tpy)
Coating applied at Line No. 1 coater	134,536
Coating applied at Line No. 2 coater	110,641
Coating applied at Line No. 3 coater	210,812
Total coating applied at Line 1 & Line 2 coaters	245,177
Total asphalt produced in blowstills	457,726

This facility is not one of the 28 PSD named source categories.

Since the avoidance limits for NO_x and VOC were obtained when the County was nonattainment the applicant was advised that these limits could not be removed. The potential SO_2 emissions (based on the above restrictions) was less than 250 tpy, thus the request to remove the SO_2 PSD avoidance was accepted. However, since the PM_{10} emissions (the current PSD regulated pollutant) was above 250 tpy, the applicant accepted a PM_{10} emissions of less than 250 tpy and was requested to provide an algorithm to track PM_{10} emissions on a monthly basis from the entire facility.

The table below provides a summary from major SO_2 emissions sources at the facility based on an annual asphalt throughput of 457,726 tpy from blowstills.

Source ID Nos.	**Source description**	**Control Device**	**Asphalt throughput tpy**	**Emissions factor**	**Emissions factor Reference**	**SO_2 emissions tpy**
ESB1 and ESB2	Natural gas/No. 2 fuel oil-fired boilers (16.7 million Btu per hour heat input, each)	None	[b]Based on 522,471 Gal per year, each.	28.4 lb/1000 Gal No. 2 fuel oil	Ap-42	14.84
ESBS1 ESBS2 & ESBS3	Blowstills No1, No2 & No3	Natural gas fired afterburner	457,726	0.86 b/ton asphalt	[a]Trumbore	196.82
ESLC1 and ESLC2	Line No. 1 & 2 fiberglass mat coater	Electrostatic Precipitator Or Mist Eliminator	245,177	0.08 lb/ton asphalt	Aug. 98 stack test	9.81
ESEDG	Diesel fired emergency generator	None	(500 gal/yr)	1.52 (lb/MMBtu)	Ap-42	5.19
ESLC3	Line No. 3 fiberglass mat coater	Electrostatic Precipitator Or Mist Eliminator	210,812	0.08 lb/ton asphalt	Aug. 98 stack test	8.43

Note – the above emissions are based on No. 2 fuel oil usage in boilers ESB1 and ESB2 only.
[a]Trumbore, David C. 1998. "The Magnitude and Source of Air Emissions from Asphalt Blowing Operations." *Environmental Progress.* (17: 53 - 59).
[b] - Based on 8521 hours of operation.
Aug – Stack test done in August 1998.

On 11/19/2015 the applicant via e-mail stated “after some in-depth research, we don’t think it’s going to be possible to develop an algorithm for calculating facility-wide emissions that is not prohibitively complex. So, we have identified a couple of other options for demonstrating compliance with the 250 tpy caps, but they will require throughput limits on some equipment and/or raw materials and we need to verify that these limits will both allow us to demonstrate compliance and not be overly restrictive on operations. I’m working with the plant folks to make sure we have the limits accurately set and then we’ll get you a write-up that details the proposed limitations and why they will provide certainty of compliance.”

On 12/17/2015 the applicant responded via e-mail and attached a PDF of the emissions calculations with the update that shows both the previously submitted ***potential throughputs*** along with proposed throughput limitations.

The attached pdf file had the following information.

Annual asphalt through from the sources below.

Source	**Annual asphalt through** (tpy)
Coating applied at Line No. 1 coater	115,000
Coating applied at Line No. 2 coater	100,000
Coating applied at Line No. 3 coater	195,000
Total coating applied at Line 1 & Line 2 coaters	155,000
Total asphalt produced in blowstills	350,000

The above throughput resulted in emissions increase as mentioned below:

Emissions	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)	SO_2 (tpy)	CO_{2e} (tpy)
Total Emissions Increase	246.13	224.98	214.65	91.08	181.33	187.09	186.37	90,453
Significant Emission Rate	25	15	10	40	100	40	40	75,000

Note – the above emissions are based on No. 2 fuel oil will ***only*** be used in boilers ESB1 and ESB2

On 1/6/2016 there was a phone discussion between Mr. Taylor Loftis, the consultant to the applicant, Mr. Booker Pullen, Supervisor at DAQ and Mr. Gautam Patnaik of DAQ. The above throughput, No 2. fuel oil restrictions (as combustion sources to boilers ESB1 and ESB2) and the resulting emissions were discussed. Since the PM_{10} emissions were close to the 250 tpy mark, DAQ wanted an algorithm or format to track the PM_{10} emissions on a source by source basis. The applicant agreed to this requirement.

On 2/17/2016 Mr. Taylor responded "as we discussed earlier, I've attached a proposed permit condition for PSD avoidance from CertainTeed (MSWord document) along with the Excel spreadsheets calculating emissions from the facility.

Both spreadsheets are based on the same limit – 350,000 tons per year throughput through the blowstills. That throughput can be split two ways, either through Lines 1 and 2, or through Line 3 as explained below. We've calculated emissions via both methods to demonstrate that total throughput is the only limitation needed since either unit operating at full capacity will not cause an exceedance of 250 tons per year of PM."

The applicant requested that to avoid PSD for PM_{10} emissions the facility be subject to a total facility production limit of total asphalt produced in blowstills to less than 350,000 tpy of asphalt rather than tracking PM_{10} emissions from a source by source basis. DAQ agreed to this approach.

Based on the data provided on 2/17/2016 the annual asphalt throughput from the sources and the major source of PM_{10} emissions are listed in the table below:

Annual asphalt throughput from the sources below.

Source	**Annual asphalt throughput** (tpy)
Coating applied at Line No. 1 coater	134,536
Coating applied at Line No. 2 coater	110,641
Total coating applied at Line 1 & Line 2 coaters	245,177
Coating applied at Line No. 3 coater	104,823
Total asphalt produced in blowstills	350,000

The above throughput resulted in emissions increase of 226.24 tpy of PM_{10}.

The table below provides a summary from major PM_{10} emissions sources at the facility based on an annual asphalt throughput of 350,000 tpy from blowstills.

Source ID Nos.	**Source description**	**Control device**	**Asphalt Throughput tpy**	**Emissions factor**	**Emissions factor Reference**	**PM_{10} emissions tpy**
ESCS1 & ESCS2	Line No. 1 & 2 cooling section	No control device	245,177	1.01E-01 lb/ton asphalt	Avery	12.38
ESBS1 ESBS2 & ESBS3	Blowstills No1, No2 & No3	Natural gas fired afterburner	350,000	0.101 lb/ton asphalt	Mar	19.57
ESHM1 & ESHM2	Limestone/asphalt mixer No. 1 & 2	Electrostatic Precipitator Or Mist Eliminator	245,177	1.8750E lb/ton asphalt (Uncontrolled)	Ref?	11.49
ESFST1, ESFST2, ESFT1, ESFT2, ESFT3, ESST1, ESCT2, ESCT3, ESCT4, ESSDT and ES-LAT2 (removed)	Tanks	Mist Eliminator and RTO Or Electrostatic Precipitator Or Mist Eliminator	Varies for tanks	1.05E-01 lb/ton asphalt	ARMA	6.49
ESBSB1, ESBSB2, ESSS1, ESSS2 and ESTSV	sand transfer systems and silos	Baghouse	Varies	0.02	Outlet Grain Loading (gr/dscf)	9.20[a]
ESHLT and ESHLS	Headlap unload and transfer system and silos	Baghouse	Varies	0.02	Outlet Grain Loading (gr/dscf)	14.28[a]
ESBSP3 and ESDML3	Line No. 3 surfacing/backsurfacing process and dry mat looper	Baghouse	Varies	0.02	Outlet Grain Loading (gr/dscf)	22.51[a]

ESLC1 and ESLC2	Line No. 1 & 2fiberglass mat coater	Electrostatic Precipitator Or Mist Eliminator	Varies	0.02	Outlet Grain Loading (gr/dscf)	8.58 [a]
Natural Gas Combustion Sources						29.44 [b]
ESCM1, ESCM2 and ESCM3	Crushing mill/product cyclone No. 1, No. 2 & No. 3	Baghouse	Varies	0.02	Outlet Grain Loading (gr/dscf) [a]	
ESCMH1, ESCMH2 & ESCMH3	Natural gas direct fired heater for Crushing Mill No. 1, No. 2 & No. 3.	Baghouse	[b]Based on various amount of natural gas burned	7.6 lb/M ft^3 of natural gas	Ap-42	
ESSCH1, ESSCH2 & ESSCH3	Natural gas fired shingle coating heater No. 1, No. 2 & No. 3.	None	[b]Based on various amount of natural gas burned	7.6 lb/M ft^3 of natural gas	Ap-42	
ESLFH	Natural gas direct fired limestone filler heater (8.7 million Btu per hour heat input)	Baghouse	[b]Based on 74.1M ft3 of natural gas	7.6 lb/M ft^3 of natural gas	Ap-42	
ESHOH1, ESHOH2 & ESHOH4	Natural gas fired hot oil heater No.1., No. 2. & No. 4.	None	[b]Based on various amount of natural gas burned	7.6 lb/M ft^3 of natural gas	Ap-42	
CDRTO	Regenerative Thermal Oxidizer (RTO)		[b]Based on 47.7 M ft3 of natural gas			
CDAFB	Natural gas fired afterburner		[b]Based on 170.4 M ft3 of natural gas	7.6 lb/M ft^3 of natural gas	Ap-42	
ESBSP1 & ESBSP2	Line No. 1 & No. 2 surfacing/backsurfacing process	Baghouse	Varies	0.02	Outlet Grain Loading (gr/dscf)	33.64 [a]
ESCS3	Line No. 3 cooling section	None	Varies	1.01E-01 lb/ton asphalt	Avery	5.29
ESLSH	Railcar/truck dump pit	None	946,141 tpy limestone	0.0011 lb/ton limestone	Ap-42	7.16

Note – the above emissions are based on No. 2 fuel oil will ***only*** be used in boilers ESB1 and ESB2
ARMA - Asphalt Roofing Manufacturers Association
Avery - Testing conducted at CertainTeed's Avery, Ohio facility.
Mar - March 2013 stack test
[a] - Based on 8760 hours of operation.
[b] - Based on 8521 hours of operation.

Ref - The applicant will provide the reference for this emissions factor.
With this modification the SO_2 PSD avoidance limits in Section 2.2 ii. 1. a., of the current permit is removed.

The modified permit will limit the emissions of PM_{10} from the facility to less than 250 tons per year based on a 12-month rolling average. This limit will be enforced by limiting the asphalt processed through the three blowstills (ESBS1 through ESBS3) to less than 350,000 tons per year. This requirement is stipulated in Section 2.2 ii. 4., of the modified permit.

xiii. 15A NCAC 2D .1111: MACT Subpart DDDDD - "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters"

On July 20, 2007, the D.C. Circuit Court vacated the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters, which had been promulgated under 40 CFR 63, Subpart DDDDD. The North Carolina Attorney General's office determined that the NESHAP vacatur equates to the failure of the U.S. EPA to promulgate a standard as required under Section 112(d) of the Clean Air Act (CAA). As a result, the site-specific Maximum Achievable Control Technology (MACT) standards required under CAA §112(j), commonly referred to as the MACT "hammer" provisions, was triggered. North Carolina regulations implementing the MACT hammer found at 15A NCAC 2D .1109, were incorporated into this permit.

40 CFR § 63.56(b) "Requirements for case-by-case determination of equivalent emission limitations after promulgation of subsequent MACT standard," requires that "if the Administrator promulgates a relevant emission standard under section 112(d) or (h) of the Act that is applicable to a source after the date a permit is issued pursuant to §63.52 or §63.54, the permitting authority must incorporate requirements of that standard in the title V permit upon its next renewal. The permitting authority must establish a compliance date in the revised permit that assures that the owner or operator must comply with the promulgated standard within a reasonable time, but not longer than 8 years after such standard is promulgated or 8 years after the date by which the owner or operator was first required to comply with the emission limitation established by the permit, whichever is earlier."

Thus, DAQ is required to incorporate the Boiler MACT (Subpart DDDDD) into the modified permit during this renewal. The sources subject to this MACT are as follows:
Natural gas~~, No. 2 and No. 6 fuel oil~~ fired flux preheater No. 1 (11.3 million Btu per hour heat input, ID No. ESPH1)
Natural gas~~, No. 2 and No. 6 fuel oil~~ fired flux preheater No. 2 (11.3 million Btu per hour heat input, ID No. ESPH2)
Natural gas, No. 2 and No. 6 fuel oil- fired saturant heater No. 1 (11.3 million Btu per hour heat input, ID No. ESSH1)
Natural gas, No. 2 ~~and No. 6~~ fuel oil-fired boiler No. 1 (16.7 million Btu per hour heat input, ID No. ESB1)
Natural gas, No. 2 ~~and No. 6~~ fuel oil-fired boiler No. 2 (16.7 million Btu per hour heat input, ID No. ESB2)

Natural gas~~, No. 2 fuel oil~~ fired shingle coating heater No. 1 (4.7 million Btu per hour heat input, ID No. ESSCH1)
Natural gas~~, No. 2 fuel oil~~ fired shingle coating heater No. 2 (4.7 million Btu per hour heat input, ID No. ESSCH2)
Natural gas~~/No. 2 and No. 6 fuel oil~~ fired shingle coating heater No. 3 (3.75 ~~11.3~~ million Btu per hour heat input, ID No. ESSCH3)
Natural gas~~, No. 2 fuel oil~~ fired hot oil heater No. 2 (5.0 million Btu per hour heat input, ID No. ESHOH2)
Natural gas~~, No. 2 fuel oil~~ fired hot oil heater No. 4 (15.0 million Btu per hour heat input, ID No. ESHOH4)
Natural gas~~, No. 2 fuel oil~~ fired hot oil heater No. 1 (2.1 million Btu per hour heat input, ID No. ESHOH1)

Boilers and heaters burning natural gas, refinery gas, other similar gases (i.e. landfill gas) are termed gas 1 units. By definition gas-1 units can fire No. 2 fuel oil during times of curtailment only.

A. Existing gas1 units with less than 5 MMBtu/hr and currently subject to 112j:
Natural gas, No. 2 fuel oil ~~-~~fired shingle coating heater No. 1 (4.7 million Btu per hour heat input, ID No. ESSCH1)
Natural gas, No. 2 fuel oil ~~-~~fired shingle coating heater No. 2 (4.7 million Btu per hour heat input, ID No. ESSCH2)
Natural gas, No. 2 fuel oil ~~-~~fired hot oil heater No. 2 (5.0 million Btu per hour heat input, ID No. ESHOH2)
Natural ~~gas, No. 2 fuel oil -~~fired hot oil heater No. 1 (2.1 million Btu per hour heat input, ID No. ESHOH1)
Natural gas~~/No. 2 and No. 6 fuel oil~~ fired shingle coating heater No. 3 (3.75 ~~11.3~~ million Btu per hour heat input, ID No. ESSCH3)

The following rules and regulations of MACT Subpart DDDDD apply:

Compliance Date, Initial Tune Up and One-Time Energy Assessment

The applicant shall start complying with this rule starting May 20, 2019. (See Section 2.1 F. 6. a. i., of the modified permit)

40 CFR § 63.7510(e) requires the applicant to complete the **initial tune-up** and **one-time energy assessment** specified in Table 3 to this subpart no later than the compliance date specified in 40 CFR §63.7495.

Although gas 1 boilers are not subject to numerical emission limits, they must meet work practice standards. As per table 3 of MACT Subpart DDDDD an existing boiler or process heater heat input capacity of less than or equal to 5 million Btu per hour in a unit designed to burn gas 1 shall conduct a tune-up of the boiler or process heater every 5 years as specified in 40 CFR §63.7540. Also as per 40 CFR § 63. 7540(a)(12). If your boiler or process heater has …a heat input capacity of less than or equal to 5 million Btu per hour and the unit is in the units designed to burn gas 1; …you must conduct a tune-up of the boiler or process heater every 5

years as specified in paragraphs (a)(10)(i) through (vi) of this section to demonstrate continuous compliance."
(See Section 2.1 F. 6. d., of the modified permit)

Notifications

40 CFR 63.7545(e)(8) requires in addition to the information required in 40 CFR §63.9(h)(2) the applicant's notification of compliance status must include the following certifications of compliance, as applicable, and signed by a responsible official. These certifications include:

i. The facility complies with the required initial tune-up according to the procedures;
ii. Performs an energy assessment; and
iii. Except for units that burn only gas 1 fuel, no other fuels are combusted in any affected unit.
(Section 2.1 F. 6. e., of the modified permit)

Work Practice Standards

40 CFR § 63.7540(a)(12) requires for a boiler or process heater with a heat input capacity of less than or equal to 5 million Btu per hour and the unit is in the units designed to burn gas 1 fuels the applicant must conduct a tune-up of the boiler or process heater every 5 years as specified in paragraphs (a)(10)(i) through (vi) of this section to demonstrate continuous compliance.

As per this tune up the applicant is required to:
i. inspect the burner, and clean or replace any components of the burner as necessary,
ii. inspect the flame pattern and adjust the burner as necessary to optimize the flame pattern,
iii. inspect the system controlling the air-to-fuel ratio,
iv. optimize total emissions of carbon monoxide, and
iv. measure the concentrations in the effluent stream of carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made.
(Section 2.1 F. 6. g. through j., of the modified permit)

Energy Assessment Requirements

As mentioned above a one-time energy assessment is required for these sources.

40 CFR § 63.7510(e) requires the applicant to complete the one-time energy assessment specified in Table 3 to this subpart no later than the compliance date specified in 40 CFR §63.7495.

Table 3 of MACT Subpart DDDDD requires that an existing boiler or process heater located at a major source facility must have a one-time energy assessment performed by a qualified energy assessor. The energy assessment include:
a. a visual inspection of the boiler or process heater system.
b. an evaluation of operating characteristics of the systems, operating and maintenance procedures, and unusual operating constraints.
c. an inventory of major energy use systems consuming energy from affected sources

d. a review of available architectural and engineering plans, facility operation and maintenance procedures and fuel usage.
e. a review of the facility's energy management program.

(Section 2.1 F. 6. k., of the modified permit)

Recordkeeping Requirements

As per the requirements of 40 CFR § 63.7555 the facility shall keep the following:

i. a copy of each notification and report submitted to comply with this subpart,
ii. maintain on-site and submit, if requested by DAQ an annual report containing the information about the concentrations of carbon monoxide in the effluent stream, description of any corrective actions taken, type and amount of fuel used over the past year and the occurrence and duration of each malfunction of operation and
iii. records have to be kept for 5 years following the date of each occurrence.

(Section 2.1 F. 6. l. and m., of the modified permit)

Reporting Requirements

Applicant shall submit compliance reports to the DAQ on a 5-year basis using the EPA's Central Data Exchange (CDX)

(Section 2.1 F. 6. n., through p., of the modified permit)

B. For the existing sources designed to burn gas 1 fuels with a heat input capacity equal to or greater than 10 million Btu per hour and currently subject to 15A NCAC 2D .1109: Case-by-Case MACT.

Natural gas~~, No. 2 and No. 6 fuel oil-~~ fired flux preheater No. 1 (11.3 million Btu per hour heat input, ID No. ESPH1)

Natural gas~~, No. 2 and No. 6 fuel oil-~~ fired flux preheater No. 2 (11.3 million Btu per hour heat input, ID No. ESPH2)
Natural ~~gas, No. 2 and No. 6 fuel oil-~~ fired saturant heater No. 1 (11.3 million Btu per hour heat input, ID No. ESSH1)

~~Natural gas /No. 2 and No. 6 fuel oil- fired shingle coating heater No. 3 (3.75 million Btu per hour heat input, ID No. ESSCH3)~~

Natural gas~~, No. 2 fuel oil-~~ fired hot oil heater No. 4 (15.0 million Btu per hour heat input, ID No. ESHOH4) [NSPS Dc]

The following rules and regulations of MACT Subpart DDDDD apply:

Compliance Date, Initial Tune Up and One-Time Energy Assessment

The applicant shall start complying with this rule starting May 20, 2019. (See Section 2.1 F. 7. a. i., of the modified permit)

40 CFR § 63.7510(e) requires the applicant to complete the **initial tune-up** and **one-time energy assessment** specified in Table 3 to this subpart no later than the compliance date specified in 40 CFR §63.7495.
(2.1 F. 7. d., of the modified permit)

Notifications

40 CFR 63.7545(e)(8) requires in addition to the information required in 40 CFR §63.9(h)(2) the applicant's notification of compliance status must include the following certifications of compliance, as applicable, and signed by a responsible official. These certifications include:

v. The facility complies with the required initial tune-up according to the procedures;
vi. Performs an energy assessment; and
vii. Except for units that burn only gas 1 fuel no other fuel are were combusted in any affected unit.

(Section 2.1 F. 7. e., of the modified permit)

Work Practice Standards

As per 40 CFR § 63. 7500(e) boilers and process heaters in the units designed to burn gas 1 fuels subcategory are not subject to the emission limits.

However, to demonstrate continuous compliance with the work practice standards 40 CFR §63.7540(a)(10) the applicant shall conduct a tune-up of the sources annually as specified below:

i. inspect the burner,
ii. inspect the flame pattern,
iii. Inspect the system controlling the air-to-fuel ratio,
iv. optimize total emissions of carbon monoxide, and
v. measure the concentrations in the effluent stream of carbon monoxide

Each annual tune-up shall be conducted no more than 13 months after the previous tune-up [40 CFR § 63.7515(d)]

40 CFR § 63.7500(a)(3) requires at all times the applicant must operate and maintain the affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.
(Section 2.1 F. 7. g., through j., of the modified permit)

Energy Assessment Requirements

As mentioned above a one-time energy assessment is required for these sources.

40 CFR § 63.7510(e) requires the applicant to complete the one-time energy assessment specified in Table 3 to this subpart no later than the compliance date specified in 40 CFR §63.7495.

Table 3 of MACT Subpart DDDDD requires that an existing boiler or process heater located at a major source facility must have a one-time energy assessment performed by a qualified energy assessor. The energy assessment include:

a. a visual inspection of the boiler or process heater system.
b. an evaluation of operating characteristics of the systems, operating and maintenance procedures, and unusual operating constraints.
c. an inventory of major energy use systems consuming energy from affected sources
d. a review of available architectural and engineering plans, facility operation and maintenance procedures and fuel usage.
e. a review of the facility's energy management program.

(Section 2.1 F. 7. k., of the modified permit)

Recordkeeping Requirements

As per the requirements of 40 CFR § 63.7555 the facility shall keep the following:

i. a copy of each notification and report submitted to comply with this subpart,
ii. maintain on-site and submit, if requested by DAQ an annual report containing the information about the concentrations of carbon monoxide in the effluent stream, description of any corrective actions taken, type and amount of fuel used over the past year and the occurrence and duration of each malfunction of operation as required by 40 CFR § 63.7540(a)(10)(vi) and
iii. records have to be kept for 5 years following the date of each occurrence.

(Section 2.1 F. 7. l., and m., of the modified permit)

Reporting Requirements

Applicant shall submit compliance reports to the DAQ on a 5-year basis using the EPA's Central Data Exchange (CDX)

(Section 2.1 F. 7. n., through p., of the modified permit)

C. For the existing sources designed to burn No 2 fuel oil and natural gas only with a heat input capacity equal to or greater than 10 million Btu per hour and currently subject to 15A NCAC 2D .1109: Case-by-Case MACT.

Natural gas and No. 2 ~~and No. 6 fuel~~ oil- fired boiler No. 1 (16.7 million Btu per hour heat input, ID No. ESB1)

Natural gas and No. 2 ~~and No. 6 fuel~~ oil- fired boiler No. 2 (16.7 million Btu per hour heat input, ID No. ESB2)

The following rules and regulations of MACT Subpart DDDDD applies:

Compliance Date, Initial Tune Up and One-Time Energy Assessment

The applicant shall start complying with this rule starting May 20, 2019. (See Section 2.1 F. 8. a. i., of the modified permit)

40 CFR § 63.7510(e) requires facility to complete an **initial tune-up** no later than the compliance date specified in 40 CFR § 63.7495 and must complete the **one-time energy assessment** specified in Table 3 to this subpart no later than the compliance date specified in 40 CFR § 63.7495.

The applicant shall complete the initial tune up and the one-time energy assessment no later than May 20, 2019.
(2.1 F. 8. d., of the modified permit)

Definitions and Nomenclature

As per the definitions in MACT subpart DDDDD 40 CFR § 63.7575 "Period of gas curtailment" is described as "a period of time during which the supply of gaseous fuel to an affected boiler or process heater is restricted or halted for reasons beyond the control of the facility."

Also as per the same definitions "Unit designed to burn gas 1 subcategory" includes any boiler or process heater that burns only natural gas, refinery gas, and/or other gas 1 fuels. Gaseous fuel boilers and process heaters that burn liquid fuel for periodic testing of liquid fuel, maintenance, or operator training, not to exceed a combined total of 48 hours during any calendar year, are included in this definition."
(Section 2.1 F. 8. b. i., of the modified permit)

Notifications

40 CFR § 63.7545(e)(8) - In addition to the information required in 40 § 63.9(h)(2), the notification of compliance status must include the following certification of compliance, as applicable, and signed by a responsible official:

i. the facility complies with the required initial tune-up according to the procedures in 40 CFR § 63.7540(a)(10)(i) through (vi),
ii. the facility has had an energy assessment performed according to 40 CFR § 63.7530(e), and
iii. except for units that burn only natural gas or units that qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act, include the following: "No secondary materials that are solid waste were combusted in any affected unit."

40 CFR § 63.7530(d) - If the facility operates an ***existing*** unit …. designed to burn ***gas 1*** subcategory, the applicant must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted a tune-up of the unit.

40 CFR § 63.7530(e) - Must include with the Notification of Compliance Status a signed certification that the energy assessment was completed according to Table 3 to this subpart and is an accurate depiction of the facility at the time of the assessment.

40 CFR § 63.7530(f) – Must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in 40 CFR § § 63.7545(e).

(See Section 2.1 F. 8. e., of the modified permit)

General Compliance Requirements

40 CFR § 63. 7500(f) - These standards apply at all times the affected unit is operating.

40 CFR § 63. 7505(a) - Must be in compliance with the emission limits, work practice standards, and operating limits in this subpart. These limits apply at all times the unit is operating.

(See Section 2.1 F. 8. f., of the modified permit)

Work Practice Standards

40 CFR § 63. 7500(e) - Boilers in the units designed to burn gas 1 fuels subcategory are not subject to the emission limits in Tables 1 and 2 or 11 through 13 of MACT subpart DDDDD, or the operating limits in Table 4 of MACT subpart DDDDD

40 CFR § 63 7540(a)(10) – Boilers with a heat input capacity of 10 million Btu per hour or greater, must conduct an annual tune-up of the boiler or process heater to demonstrate continuous compliance as specified in paragraphs (a)(10)(i) through (vi) of this section.

During the tune up applicant must:

i. inspect the burner, and clean or replace any components of the burner as necessary,
ii. inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available,
iii. inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly,
iv. optimize total emissions of carbon monoxide. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_X requirement to which the unit is subject; and
v. measure the concentrations in the effluent stream of carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made.

40 CFR § 63.7515(d) - Each annual tune-up must be no more than 13 months after the previous tune-up.

40 CFR § 63.7540(a)(13) - If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup.

40 CFR § 63.7500(a)(3) - At all times, the applicant shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.
(See Section 2.1 F. 8. g., through j., of the modified permit)

Energy Assessment Requirements

40 CFR § 63.7500(a)(1) – Applicant shall meet each emission limit and work practice standard in Table 3 that applies to the boilers.

The energy assessment requirements include the work practice standards for existing boilers located at a major source facility as listed in Table 3 of MACT Subpart DDDDD, are as follows:

i. a visual inspection of the boiler or process heater system,
ii. an evaluation of operating characteristics of the boiler or process heater systems,
ii. an inventory of major energy use systems consuming energy from affected boilers,
iv. a review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage,
v. a review of the facility's energy management practices and provide recommendations for improvements consistent with the definition of energy management practices,
vi. a list of cost-effective energy conservation measures that are within the facility's control,
vii. a list of the energy savings potential of the energy conservation measures identified, and
viii. a comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.

(See Section 2.1 F. 8. k., of the modified permit)

Recordkeeping Requirements

40 CFR § 63.7555(a)(1) - A copy of each notification and report submitted to comply with MACT Subpart DDDDD, including all documentation supporting any Initial Notification or Notification of Compliance Status (NCS) or semiannual compliance report submitted, according to the requirements in 40 CFR § 63.10(b)(2)(xiv).

40 CFR § 63.7540(a)(10)(vi) - Maintain on-site and submit, if requested by DAQ, an annual report containing the information as follows:

A. The concentrations of carbon monoxide in the effluent stream in parts per million by volume, and oxygen in volume percent, measured before and after the adjustments of the source;
B. A description of any corrective actions taken as a part of the combustion adjustment; and
C. The type and amount of fuel used over the 12 months prior to the annual adjustment, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.

40 CFR § CFR 63.10(b)(2)(ii) - The associated records for General Compliance Requirements, Work Practice Standards, Energy Assessment Requirements, and Recordkeeping Requirements, including the occurrence and duration of each malfunction of operation .

40 CFR § 63.7555(i) - Must maintain records of the calendar date, time, occurrence and duration of each startup and shutdown.

40 CFR § 63.7555(j) – Must maintain records of the type(s) and amount(s) of fuels used during each startup and shutdown.

15A NCAC 2Q 2Q .0508(f) – To ensure Gas 1 classification facility must maintain records of the following:
A. types of fuels combusted during periods of gas curtailment, gas supply interruption, periodic testing maintenance and operator training,
B. date and duration of periods of gas curtailment and gas supply interruption, and
C. date and duration of periods of testing, maintenance and operator training while combusting liquid fuel.

40 CFR § 63.7560(a) - Records must be in a form suitable and readily available for expeditious review, according to 40 CFR § 63.10(b)(1). Must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The records must be kept on site for at least 2 years after the date of each occurrence.
(See Section 2.1 F. 8. l., through m., of the modified permit)

Reporting Requirements

40 CFR § 63.7550(a) and (b) - Must submit each report in Table 9 of MACT DDDDD. Applicant must submit semi-annual compliance reports to the DAQ on a 5-year basis. This report must also be submitted electronically.

Table 9 of MACT Subpart DDDDD –

The compliance report musty have the information required in 40 CFR § 63.7550(c)(1) through (5), including:
i. Company name and address;
ii. Process unit information, emissions limitations, and operating parameter limitations;

iii. Date of report and beginning and ending dates of the reporting period;

iv. The total operating time during the reporting period;

iv. If there are no deviations from the requirements of the work practice requirements in condition g. above, a statement that there were no deviations from the work practice standards during the reporting period; and

v. Include the date of the most recent tune-up for each unit required according to condition g. Include the date of the most recent burner inspection if it was not done as scheduled and was delayed until the next scheduled or unscheduled unit shutdown.

Must maintain records of the types and amounts of fuels used during each startup and shutdown as required by 40 CFR § 63.7555(j).

For a deviation from a work practice standard during the reporting period, the report must contain the following information about:

i. A description of the deviation and which emission limit or operating limit from deviation; and

ii. Information on the number, duration, and cause of deviations (including unknown cause), as applicable, and the corrective action taken.

(See Section 2.1 F. 8. n., through q., of the modified permit)

V. NSPS, NESHAPS/MACT, PSD, Attainment Status, 12(r), Air Toxics, CAM, Compliance Status:

PSD/NSR & Attainment Status

This facility is located in Granville County, which is now in attainment for all pollutants. The facility is now an existing minor source under the PSD program (15A NCAC 02D .0530). Granville County is no longer subject to ozone non-attainment.

NESHAP/MACT

The facility is subject to the Asphalt Processing and Asphalt Roofing Manufacturing (Subpart LLLLL) MACT and the 2D .1109 case-by-case MACT.

112(r)

This facility is not subject to Section 112(r) of the Clean Air Act requirements because it does not store the regulated substances in quantities above the thresholds in the Rule.

Air Toxics

All the emissions of toxic air pollutants (except benzene) are removed from the air permit in accordance with 15A NCAC 2Q .0702(27). {See Section II. 4, Application # 3900040.13B, above}

CAM

The Compliance Assurance Monitoring (CAM) Rule (40 CFR Part 64) applies to pollutant-specific emissions units (PSEU) that are pre-control major sources and use a control device to comply with an emissions limit.

The afterburner (CDAFB), electrostatic precipitator (CDESP), mist eliminator (CDME), and the regenerative thermal oxidizer (CDRTO) control the emissions from the sources ESBS1, ESBS2, ESBS3, ESHM1, ESHM3, and ESLC3 and are subject to a (CAM) plan as per the requirement of 2D .0614. These requirements are outlined in Section 2. 3., of the permit. There are no changes to these requirements. Some modifications are made to the "Monitoring Approach" (See Section VI., of this review)

Compliance Status

Based on the latest inspection report (on IBEAM) Mr. Steven Carr of the Regional Office inspected the facility on 08/11/2015 and the conclusion of his inspection report states "CertainTeed Corporation appeared to be in compliance with all requirements outlined in their air permit."

The inspection report also cites several violations the latest dating back to May 5, 2010 for missing daily visible emissions observations during January 2010.

Renewal of the permit will help the applicant to be in continuous compliance.

VI. Consistency Determination, Comments, and Recommendations

A zoning consistency determination as per 2Q .0304(b), was not required since there was no construction involved.

A " Professional Engineer Seal" was not required for this application.

Regional Office, the applicant and the SSCB (Stationary Source Compliance Branch) were provided a draft of this permit and their comments taken into consideration.

The major comments received from the Regional Office on 3/23/2016 are:

- "The diesel-fired 2500 kW generator (ID No. IESEDG) is described as an "emergency" generator when it is really a "non-emergency" engine. Also, I do not think it should be listed in the Insignificant Activities List since it is regulated under Title II of the CAA, and is not regulated by the Title V permit at all. Finally, the 2Q .0503(8) exemption is inappropriate since the engine has potential (and probably actual) emissions far in excess of 5 tons per year."

- The RRO concurs with changing the minimum temperature requirements for the afterburner (ID No. CDAFB).

The SSCB (Stationary Source Compliance Branch) provided some comments on the CAM "Monitoring Approach" for changing the excursion period and an alarm indicator when reaching the excursion level.

VII. Table of changes:

The following table describes the modifications to the current permit as part of the modification process.

Page(s)	Section	Description of Change(s)
Several	Source Table	No. 6 fuel were removed from all combustion sources
Several	Source Table	No. 2 were removed from all combustion sources except boilers ESB1 And ESB2
12	Source Table	2,500 kw diesel-fired emergency generator removed and added to insignificant activities list as IESEDG
26	2.1 F.,	No. 2 and No. 6 fuel oil removed from all combustion sources
29	2.1 F. 4.,	Removed rule 02D .0524 Dc
30	2.1 F. 5. b.,	Emission limits removed for Case-by-Case MACT
30	2.1 F. 5. c.,	Compliance testing removed for Case-by-Case MACT
30	2.1 F. 5. f.,	Notification of Compliance Status removed for Case-by-Case MACT
31	2.1 F. 5. h.,	Last effective date of 02D Case-by-Case MACT added
31 through 34	2.1 F. 6.,	MACT Subpart DDDDD for existing gas 1 units with a heat input capacity of less than 5 million Btu per hour
34 through 37	2.1 F. 7.,	MACT Subpart DDDDD for existing sources designed to burn gas 1 fuels with a heat input capacity greater than 10 million Btu per Btu per hour
37 through 41	2.1 F. 8.,	MACT Subpart DDDDD for existing sources designed to burn gas 1 fuels with a heat input capacity equal to or greater than 10 million Btu per hour
50	2.2 i., 1. i.,	MACT Subpart LLLLL – Operating limit for combustion temperature of the afterburner (ID No. CDAFB) changed from 1,565 to 1,463 degrees Fahrenheit
53 through 56	2.2 ii., 1.,	SO2 PSD avoidance limits removed.
60 through 61	2.2 ii., 4.,	PM10 PSD avoidance limit added
61	2.2 iii.,	Toxics limits modified.
63 through 72	General Conditions	Updated to most recent shell version (v 4.0).